Claims

5   1.   In a printshop having resources for performing various tasks, a method, comprising the steps of:

dividing the resources into autonomous cells, wherein each cell has sufficient resources to produce a print job; and

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assigning each print job to a respective one or more of the cells for printing.

2.   The method of claim 1 wherein the resources include equipment for performing
15   printing tasks.

3.   The method of claim 1 wherein the step of assigning print jobs comprises, for each given print job, determining what tasks need to be performed to complete the given print job and assigning the given print job to one of the autonomous cells that has
20   resources for performing the tasks that need to be performed to complete the given print job.

4.   The method of claim 3 wherein the step of assigning print jobs comprises, for each given print job, determining which of the autonomous cells has sufficient available
25   capacity to print the given print job.

5.   The method of claim 1 wherein at least one of the autonomous cells includes more than one machine for performing a same operation.
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6.   The method of claim 1 further comprising the steps of:

determining classes of print jobs;

35   assigning each print job to one of the classes.

7.   The method of claim 6 wherein the determination of the class of print jobs is done based on collecting and analyzing print job data.

8.   The method of claim 6 wherein the step of assigning each print job to a respective one of the cells for printing is based in part on the classes to which the print jobs are assigned.

9.   The method of claim 1 wherein a selected one of the cells is assigned multiple print jobs for concurrently printing the multiple print jobs.

10.   A method, comprising the steps of:

        providing a printshop that is partitioned into autonomous cells, each cell containing sufficient resources to complete a print job;

        receiving a print job for printing at the printshop;

        sending the print job to a selected one of the autonomous cells having equipment for completing the print job; and

        at the selected autonomous cell, dividing the print job into lots and concurrently processing the lots on separate items of the equipment in the selected autonomous cell.

11.   The method of claim 10 wherein each cell contains multiple pieces of equipment for completing a print job.

12.   The method of claim 10 wherein the printshop has more than two autonomous cells.

13.   The method of claim 10 wherein the lots are roughly equal sized.

14.   The method of claim 10 wherein the dividing step is performed automatically by a machine.

15.   The method of claim 14 wherein the machine is a computer system.

16.   A method of partitioning a printshop into autonomous cells, comprising the steps of:

identifying products produced by the printshop;

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identifying operations required for producing each of the identified products;

determining printshop resources that are required for the identified

10   operations;

determining a number of printshop resources required for operations to produce the products based on customer demand for products; and

15   partitioning printshop resources into autonomous cells based on the determined number of printshop resources required for operations to produce products based on customer demand for products, wherein each autonomous cell is independently capable of producing at least one of the identified products.

20   17.   The method of claim 16 wherein throughput of each autonomous cell is determined as a function of the printshop resources allocated to the autonomous cell, and wherein the printshop resources are allocated to each autonomous cell based on customer demand.

25   18.   The method of claim 16 wherein the step of identifying products comprises identifying classes of print jobs produced by the printshop, wherein each class includes a sequence of operations that is performed for print jobs of the class that differs from the sequence of operations performed for each of the other classes.

30   19.   The method of claim 16 wherein customer demand is estimated based on empirical data.

20.   The method of claim 16 further comprising the step of assigning a print job to a selected one of the autonomous cells for completion by the selected autonomous cell.

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21.   The method of claim 20 further comprising the step of dividing the print job into smaller sized lots and concurrently processing the smaller sized lots in the selected autonomous cell.

5   22.   The method of claim 20 wherein the assigning step is performed by a computer system.